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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/863,217	05/22/2001	Carl S. Marshall	10559-479001/ P11158	8946

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EXAMINER

WALLACE, SCOTT A

ART UNIT PAPER NUMBER

2671

DATE MAILED: 08/28/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/863,217

Applicant(s)

MARSHALL ET AL.

Examiner

Scott Wallace

Art Unit

2671

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5. 6) ☐ Other:

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobe-shi, European Patent Application, EP 0948978A2 in view of Junkins et al., U.S. Patent No. 6,198,486.

3. As per claims 1, 11 and 21, Kobe-shi discloses a method of generating a shadow in a virtual three-dimensional (3D) space (abstract), comprising: projecting elements of the 3D model onto a surface in the virtual 3D space (abstract). However, Kobe-shi does not disclose adjusting a resolution of a 3D model. This is disclosed in Junkins et al in column 1 lines 10-45. It would have been obvious to one of ordinary skill in the art at the time the invention was made to adjust the resolution of the model in Kobe-shi because this would make it easier to remove excessive details if less detailed models were required. Also Kobe-shi does not disclose rendering a shadow having the adjusted resolution of the 3D model on the surface using the projected elements. This would have been obvious to one of ordinary skill in the art at the time the invention was made because adjusting the resolution of the 3D model would correspondingly affect the resolution of the image projected from it.

4. As per claim 2, 12 and 22, Kobe-shi discloses wherein the elements of the 3D model are projected based on a location of a virtual light source in the virtual 3D space (abstract).

5. As per claims 3, 13 and 23, the rejection is based on the same statements of claim 1 above. Since this is a multi-resolution model then it would be possible to repeat claim 1 with a different resolution.

6. As per claims 4, 14 and 24, Junkins et al discloses wherein adjusting comprises reducing the resolution of the 3D model (column 1 lines 10-45).

7. As per claims 5, 15 and 25, Junkins et al discloses wherein adjusting comprises removing elements of the 3D model (column 1 lines 10-45).
8. As per claims 6, 16 and 26, Junkins et al discloses wherein the 3D model comprises a multi-resolution model (column 1 lines 10-45).
9. As per claims 7, 17 and 27, Junkins et al discloses providing a user interface for use in adjusting the resolution of the 3D model (column 1 lines 10-15).
10. As per claims 8, 18 and 28, Junkins et al discloses rendering the 3D model at its original resolution (column 1 lines 10-45).
11. As per claims 9, 19 and 29, Junkins et al discloses wherein the elements comprise vertices of the 3D model (column 1 lines 10-45).
12. As per claims 10, 20 and 30, Junkins et al discloses wherein the elements comprise polygons of the 3D model (column 1 lines 10-45).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Scott Wallace** whose telephone number is **703-605-5163**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Mark Zimmerman**, can be reached at 703-305-9798.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

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Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA,
Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be
directed to the Technology Center 2600 Customer Service Office whose telephone number is
(703) 306-0377.



MARK ZIMMERMAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600